

NEW ABSTRACT

A highly dense transparent aluminum oxide (alumina) has a fine crystal size and is stabilized for use at temperatures of 800°C or more. Structures thereof may be used in the lighting industry in, for example, an electric lamp having a discharge tube with a wall of such a ceramic. The alumina is provided with an additive including an oxide of Mg and has an average crystal size  $\leq 2\mu\text{m}$ , and a relative density higher than 99.95% with a real in-line transmission RIT  $\geq 30\text{-}50\%$ , measured over an angular aperture of at most  $0.5^\circ$  at a sample thickness of 0.8 mm and with a single wavelength of light  $\lambda$  of 645nm, for example.